FUEL INJECTION MAINTENANCE FACILITIES AND EQUIPMENT

GENERAL

Work on fuel injection equipment is specialized. It requires special machines, tools, and instruments. The work should be done under the best conditions. The work area must be kept extremely clean, and a relatively constant temperature should be maintained.

It is essential that highly skilled personnel be assigned to do this work. They must have a complete working knowledge of the injection equipment to satisfactorily perform maintenance work.

It is generally assumed that most railroad shops are well equipped to perform this specialized work. However, if the proper facilities and equipment are not available, service of the injection equipment can be obtained through your General Electric Company representative.

SHOP

It is recommended that the work area be set up in a closed room which is well ventilated with filtered air. The fuel injection repair shop must be kept clean and reserved solely for this work. Tools and work benches should be conveniently located, and the work area well lighted. Figure 1 shows typical equipment used in fuel injection work.

SPECIAL EQUIPMENT

The following is a minimum list of equipment and tools which should be included in a well-equipped fuel injection service shop. The list does not include standard common hand tools, such as wrenches and screw drivers, which should also be included. (See Section G of GEG-14700 Tool Catalog.)

TABLE 1
SPECIAL EQUIPMENT AND TOOLS

TOOL	USE	TOOL	USE
Drift pin	To remove the tip from the assembly nut.	Nozzle microscope or otoscope	To check stone and needle angles and the condition of valve seats.
Needle extracting nut (spray nozzle only)	To remove stuck needles.	Nozzle grinding and lapping machine	To correct the angle of needles and stones.
Lapping and polishing kit	To lap various surfaces.	Grinding wheel	To dress honing stones to the correct angle.
Honing oil	Used when honing the nozzle-valve body seat.	Grinding wheel	To grind the correct angle on a nozzle-valve needle.
Honing stone sets	To hone the nozzle-valve body seat.	Lapping plate	To lap flat surfaces.
Testing fixture	For nozzle holder tests.	Precision pump calibrating machine	To accurately calibrate fuel delivery of overhauled fuel injection pumps.
Needle lift gage	To measure the needle lift.		

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

Verify numbers for parts, tools, or material by using the Renewal Parts or Tool Catalogs, or contact your General Electric representative for assistance. Do not order from this publication.

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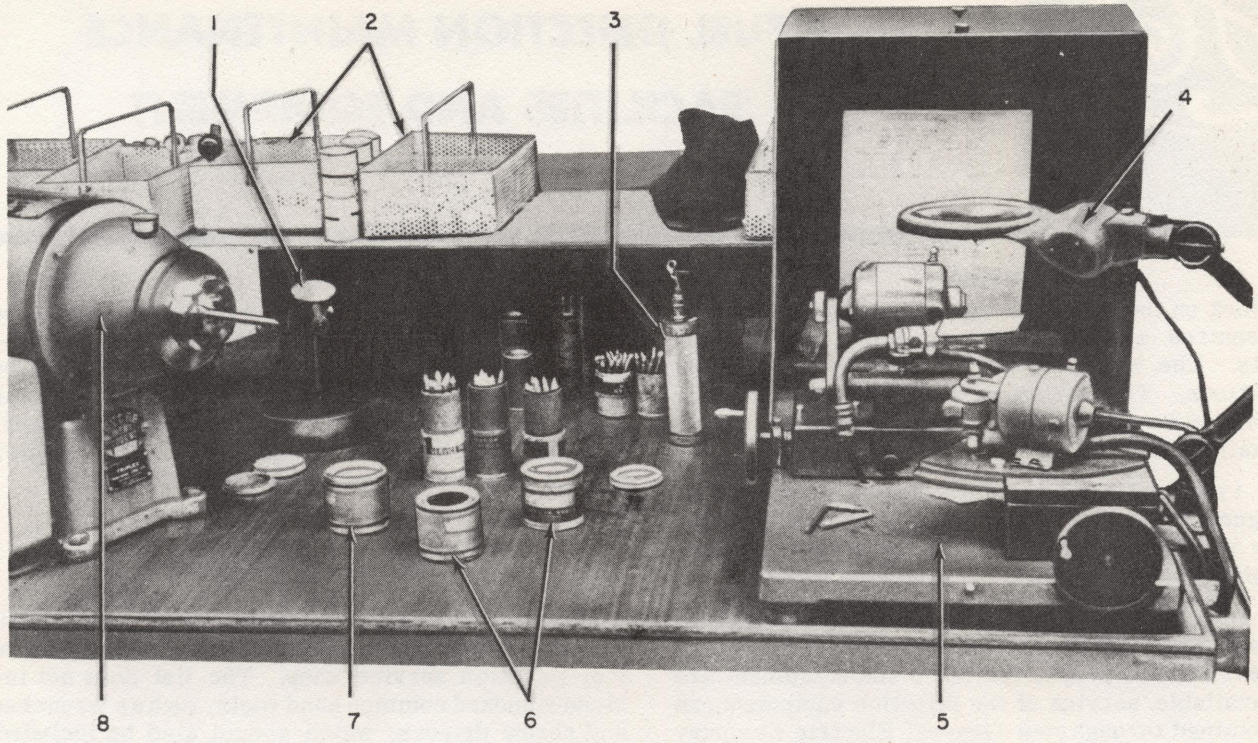

1	Valve-lift dial indicator	4	Adjustable magnifying glass, 5 power	7	Mutton tallow
2	Washing baskets	5	Valve grinding machine	8	Lathe with honing pencil in chuck
3	Otoscope	6	Lapping rouges		

Fig. 1 (E-7453)

Fig. 1. Typical equipment for fuel nozzle work

STORING SPARE NOZZLES

If the fuel nozzle assembly is not immediately installed on the engine, pour clean SAE-10 lubricating oil into the fuel inlet and drain holes. Seal the openings, by using caps and plugs or a commercially prepared hot plastic dip of ethyl cellulose.

Protect the nozzle tip by covering the spray holes with grease. Dip the nozzle in a hot plastic dip of ethyl cellulose. To avoid damage, handle the parts carefully and store them in a clean dry area.

Never take a chance with injection equipment. If it needs renewing, renew it, rather than trying to extend its life.

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